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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Yasuyuki Imaizumi

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EXAMINER

YAGER, JAMES C

ART UNIT

PAPER NUMBER

1782

NOTIFICATION DATE

DELIVERY MODE

07/09/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/510,646	Applicant(s) IMAIZUMI, YASUYUKI	
	Examiner JAMES YAGER	Art Unit 1782	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed 19 April 2010 has been entered. Claims 1-15, 17 and 18 are currently pending in the application. The rejections of record from the office action dated 10 December 2009 not repeated herein have been withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-5, 8, 10-12, 14, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hatayama et al. (JP 61-8544, see translation).

Regarding claim 1, Hatayama discloses a laminated tube having an outer layer (Fig. 2, 11b) laminated on a substrate layer (Fig. 2, 11a) that makes up the main body of said tube, the outer layer being made of or having formed thereon a linear projecting portion or portions extending straight along an entire axial length of the tube in an axial direction (Translation pg 3, para 4, Fig 1 and Fig. 2, 22). The projections of Hatayama

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are “formed on the outer layer” by the stamping roller (Translation pg 6, para 4).

Hatayama discloses an embodiment wherein the tube is a two-layer structure (i.e. the outer layer being the outer-most radially extending layer of the laminated tube; projecting portion forming a radially outermost portion of the laminated tube) (Translation pg 3, para 4).

It is clear from Figure 3 that the projection portions extend radially beyond the outermost surface of the substrate layer (11a) and form the radially outermost portion of the surface of the laminated outer layer formed on the outermost surface of the substrate layer and that the projections form the radially outermost portion of the laminated tube. Additionally it is clear that there are spaces between the projecting portions where there is no projecting portion (i.e. a portion of the laminated tube not covered by projecting portion).

The American Heritage Dictionary of the English Language: Fourth Edition defines laminate as “to make by uniting several layers”. Because Hatayama discloses layers that are united (Fig. 2, 11a and 11b), the examiner’s position is that Hatayama discloses a laminated tube.

Given that the projections and spaces between the projections (i.e. a portion of the laminated tube not covered by projecting portion) follow along the axial length of the tube (i.e. do not deviate from the straight axial length), it is clear that the projections meet the limitation of “extending straight along an entire axial length of the tube in an axial direction”.

Regarding claims 3-5, 8 and 10-12, Hatayama discloses all of the claim limitations as set forth above. Regarding claim 3, Hatayama further discloses a laminated tube wherein the projecting portion is linear (Fig. 1, 22). Regarding claim 4, Hatayama further discloses wherein a multiple number of projecting portions are disposed (Fig. 1, 22). Regarding claim 5, Hatayama further discloses wherein a pair of projecting portions is disposed axissymmetrically in the cross-sectional view (Fig. 5 and Fig. 6, The stamping rollers (18) form the projecting portions axissymmetrically in the cross-sectional view). Regarding claim 8, Hatayama further discloses wherein said outer layer having or consisting of projecting portions gives a graded effect caused by the change in thickness of the laminated outer layer (translation, pg 3, para 5, because the colors of the base layer and the outer layer differ and the outer layer is translucent, the thickness variation in the outer layer generates complex changes in hues which can be seen through the outer layer.)

The examiner's position is that the changes in hues described above constitute a graded effect.

Regarding claim 10, Hatayama further discloses wherein the main body of said tube and the outer layer have different colors (see translation pg 3, para 5, The colors of the base layer resin (11a) and the surface resin (11b) differ.) Regarding claim 11, Hatayama further discloses wherein said projecting portion or portions are spirally disposed (Fig. 2, 22). Regarding claim 12, Hatayama further discloses wherein said projecting portions have a wave form (Fig. 2, (C)).

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Regarding claim 14, Hatayama discloses all of the claim limitations as set forth above. Hatayama further discloses a molded tube product (translation pg 2, para 2, hot-press molded) wherein said tube is cut to a given length, flattened and sealed at one end, and is provided with a head portion of a shoulder and a neck at the other end (Fig. 1).

Regarding claim 17, Hatayama discloses all of the claim limitations as set forth above. Given that the projecting portion is in the same position and the article of Hatayama is stably maintained in the form of a tube, it is clear that the projecting portion must be acting as a backbone.

Regarding claim 18, given that the projections are part of the outer layer, it is clear that the laminated outer layer and said projecting portion are made of the same material.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 6-7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatayama et al. (JP 61-8544).

Regarding claims 6 and 7, Hatayama discloses all of the claims limitations as set forth above, but the reference does not explicitly disclose the projecting portions having different widths nor an even number of projecting portions is disposed at equal intervals. Since the instant specification is silent to unexpected results, the widths of the projecting portions and the precise number and interval of disposition of the projecting portions are not considered to confer patentability to the claims. As the ornamentation of the tube is a variable that can be modified, among others, by adjusting said width of the projecting portions or by adjusting said number and disposition of the projecting portions, varying the widths or the number and disposition of the projecting portions would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed variation of widths or number and disposition of the projecting portions or cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the widths or number and disposition of the projecting portions in Hatayama to obtain the desired ornamentation (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the

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prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

Regarding claim 13, Hatayama discloses all of the claims limitations as set forth above, but the reference does not explicitly disclose wherein each projecting portion has a different color. Hatayama does disclose that the substrate layer and the outer layer are different colors (translation, pg 3, para 5). It is noted that, at the time of the invention, it was known that by using different colors, a desired aesthetic result is achieved. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a tube wherein each projecting portion has a different color because there was a reasonable expectation that doing so would achieve the desired aesthetic value of the tube.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatayama (JP 61-8544), as applied to claim 1 above, in view of Haefner et al. (US 3,940,001).

Regarding claim 2, Hatayama discloses all of the claim limitations as set forth above. Hatayama does not disclose wherein said substrate layer is flexible while said outer layer is harder than said substrate layer.

Haefner discloses a laminated tube (C4/L44-50, Fig 4., container having laminated walls) having an outer layer laminated on a substrate layer that makes up the body of said tube wherein said substrate layer is flexible while said outer layer is harder than said substrate layer (C5/L40-45, C3/L35-37, thin, flexible, inner fluid-barrier lamina and a rigid outer load-bearing lamina). The American Heritage Dictionary of the English

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Language: Fourth Edition defines tube as “A small flexible cylindrical container sealed at one end and having a screw cap on the other, for pigments, toothpaste or other pastelike substances”. Because Haefner discloses a small flexible cylindrical container sealed at one end and having a screw cap on the other, for pigments, toothpaste or other pastelike substances (Fig. 4), the examiner’s position is that Haefner discloses a tube.

Haefner discloses that the container exhibits outstanding burst, impact, creep and tensile strength (C3/L40-42).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the flexible substrate and outer layer that is harder than said substrate layer of Haefner into the laminated tube of Hatayama to provide a tube that exhibits outstanding burst, impact, creep and tensile strength. In addition, one of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the flexible substrate and an outer layer that is harder than said substrate layer of Haefner into the laminated tube of Hatayama with a reasonable expectation of success because the flexible substrate and an outer layer that is harder than said substrate layer of Haefner was successfully used in an analogous invention.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatayama (JP 61-8544), as applied to claim 1 above, in view of Kincaid (US 4,196,825).

Regarding claim 9, Hatayama discloses all of the claim limitations as set forth above. Hatayama does not disclose wherein the substrate layer is made of an aluminum-laminated material.

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Kincaid discloses laminated tube having an outer layer laminated on a substrate layer that makes up the body of said tube wherein the substrate layer is made of an aluminum-laminated material (C1/L60-65).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the aluminum-laminated material substrate of Kincaid into the laminated tube of Hatayama with a reasonable expectation of success because the laminate disclosed by Kincaid was successfully used in an analogous invention. Doing so would amount to nothing more than a use of a known material for its intended use in a known environment to accomplish an entirely expected result.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatayama (JP 61-8544), as applied to claim 1 above, in view of Redding (US 4,943,780).

Regarding claim 9, Hatayama discloses all of the claim limitations as set forth above. Hatayama does not disclose wherein the substrate layer is made of an aluminum-laminated material.

Redding discloses a multilayer sheet structure (C1/L13-22) for making toothpaste tubes (C7/L55-57) comprising an outer layer of lldpe laminated to a substrate comprising aluminum foil and ldpe (i.e. an outer layer laminated on a substrate layer made of an aluminum laminated material) (C4/L7-18). Redding further discloses that a thin layer of aluminum foil provides a high quality barrier layer.

Hatayama and Redding are analogous art because they both teach about toothpaste tubes. Therefore, it would have been obvious to one of ordinary skill in the

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art at the time the invention was made to incorporate the aluminum laminated substrate of Redding into the laminated tube of Hatayama to provide a tube with good barrier properties.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatayama (JP 61-8544), as applied to claim 1 above, in view of Redmond (2001/0030192).

Regarding claim 15, Hatayama discloses all of the claim limitations as set forth above. Hatayama does not disclose that the tube is cut to a given length, flattened and sealed at both ends.

Redmond discloses a molded tube product ([0021], formed by injection molding) comprising a laminated tube ([0003], [0009], dispenser package made of laminated plastics and foils) wherein said tube is cut to a given length, flattened and sealed at both ends (Fig. 1A). Redmond discloses that the tube product is for dispensing toothpaste and is capable of economical, high-speed production ([0009]).

Hatayama and Redmond are analogous art because they both teach about tube products for dispensing toothpaste. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the sealed at both ends design of Redmond to make the tube of Hatayama to make a tube with the advantage of economical, high-speed production.

Response to Arguments

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11. Applicant's arguments filed 19 April 2010 have been fully considered but they are not persuasive.

Applicant argues that no part of the relief pattern extends beyond the outermost surfaces of surface layer resins 11b and 11c and base layer resin 11a is covered entirely by surface layer resins 11b and 11c and the pattern band 22 does not include a portion in which the projecting portion forms radially outermost surface of a laminated outer layer formed on the outermost surface of the substrate layer.

It is clear from Figure 3 that the projection portions extend radially beyond the outermost surface of the substrate layer (11a) and form the radially outermost portion of the surface of the laminated outer layer formed on the outermost surface of the substrate layer and that the projections form the radially outermost portion of the laminated tube. Additionally it is clear that there are spaces between the projecting portions where there is no projecting portion (i.e. a portion of the laminated tube not covered by projecting portion).

Applicant argues that the cylindrical surface in Figures 2(B) and 3 is the outer layer not the projections.

It is clear that the projections extend as far as the cylindrical portion in Figures 2(B) and 3. Even if they did not extend as far, it is clear that they form the radially outermost surface in the portions where they are not covered.

Additionally, Hatayama discloses an embodiment wherein the tube is a two-layer structure (i.e. the outer layer being the outer-most radially extending layer of the

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laminated tube; projecting portion forming a radially outermost portion of the laminated tube) (Translation pg 3, para 4).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES YAGER whose telephone number is (571)270-3880. The examiner can normally be reached on Mon - Fri, 7:30am-5pm, EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY 6/29/10

/Rena L. Dye/
Supervisory Patent Examiner, Art Unit 1782